

Sheet 1 of 4SUBSTITUTE FORM PTO-1449
(MODIFIED)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 C.F.R. § 1.98(b))

Attorney Docket No.

50154/004002

Serial No.

10/047,404

Applicant

Hubbell et al.

Filing Date

October 19, 2001

Group

1632

IDS Filed

December 8, 2003

U.S. PATENTS						
Examiner's Initials	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
<i>W</i>	5,268,305	12/07/93	Ribi et al.			
<i>W</i>	5,294,690	3/15/94	Iguchi et al.			
<i>W</i>	5,330,911	7/19/94	Hubbell et al.			
<i>W</i>	5,410,016	4/25/95	Hubbell et al.			
<i>W</i>	5,427,915	6/27/95	Ribi et al.			
<i>W</i>	5,446,090	8/29/95	Harris			
<i>W</i>	5,529,914	6/25/96	Hubbell et al.			
<i>W</i>	5,567,422	10/22/96	Greenwald			
<i>W</i>	5,573,934	11/12/96	Hubbell et al.			
<i>W</i>	5,575,815	11/19/96	Slepian et al.			
<i>W</i>	5,612,390	3/18/97	Iguchi, et al.			
<i>W</i>	5,635,207	6/3/97	Grinstaff et al.			
<i>W</i>	5,648,506	7/15/97	Desai et al.			
<i>W</i>	5,752,974	5/19/98	Rhee et al.			
<i>W</i>	5,801,033	9/1/98	Hubbell et al.			
<i>W</i>	5,817,840	10/6/98	Nicolaou et al.			
<i>W</i>	5,852,182	12/22/98	Cook et al.			
<i>W</i>	5,858,746	1/12/99	Hubbell et al.			
<i>W</i>	5,874,500	2/23/99	Rhee et al.			
<i>W</i>	5,880,131	3/9/99	Greenwald et al.			
<i>W</i>	5,897,955	4/27/99	Drumheller			

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DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.

Alpha Asinovsky Jan. 3, 2005

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INSTITUTION FORM PTO-1449 (MODIFIED) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) (37 C.F.R. § 1.98(b))	Attorney Docket No.	50154/004002
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	5,932,462	8/3/99	Harris et al.		
	5,945,457	8/31/99	Plate, et al.		
	5,965,588	10/12/99	Vasquez et al.		
	2003-0044468	3/6/2003	Cellesi et al.		

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION						
Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 95/13312	18.05.95	WIPO			
	WO 97/22371	26.06.97	WIPO			
	WO 99/22770	14.05.99	WIPO			
	WO 99/34833	15.7.99	WIPO			
	WO 99/14259	25.3.99	WIPO			
	WO 00/09087	24.2.00	WIPO			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)	
	Baker, "Controlled Release of Biologically Active Agents," Bruck, ed., p. 84-131 John Wiley and Sons, New York (1987).
	Ballini et al., "Amberlyst A-27, and Efficient Heterogeneous Catalyst for the Michael Reaction of Nitroalkanes with β -Substituted Alkene Acceptors," J. Org. Chem. 61:3209-3211 (1996).
	Boyland et al., "Enzymes Catalysing Conjugations of Glutathione with Alpha-beta-unsaturated Carbonyl Compounds," Biochem. J. 109:651-661 (1968).
	Chasseaud, "Distribution of Enzymes that Catalyse Reactions of Glutathione with Alpha beta-unsaturated Compounds," Biochem. J. 131:765-769 (1973).
	Deutsch et al., "Synthesis of Congeners and Prodrugs. 3. Water-Soluble Prodrugs of Taxol with Potent Antitumor Activity," Journal of Medicinal Chemistry 32:788-792 (1989).
	Dumitriu et al., "Polymeric Drug Carriers," In Polymeric Biomaterials, Dumitriu, ed., p. 435-449 and 466-724, Marcel Dekker, New York (1994).
	Duncan et al., "Soluble Synthetic Polymers as Potential Drug Carriers," Adv. In Polym. Sci. 57:51-101 (1984).

EXAMINER	DATE CONSIDERED 6-04
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SUBSTITUTE FORM PTO-1449 (MODIFIED)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	50154/004002
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		Group	1632
(37 C.F.R. § 1.98(b))		IDS Filed	December 8, 2003

	Eisele et al., "Kinetics of Photocrosslinking Reactions of a DCPA/EA Matrix in the Presence of Thiols and Acrylates," J. Polym. Sci., Polym. Chem. Ed. 35:2333-2345 (1997).
	Fan et al., "Molecular recognition and catalysis: incorporation of an 'oxyanion hole' into a synthetic receptor," New J. Chem. 21(1):81-85 (1997).
	Friedman et al., "Relative Nucleophilic Reactivities of Amino Groups and Mercaptide Ions in Addition Reactions with α,β -Unsaturated Compounds," J. Am. Chem. Soc. 87(16):3672-3682 (1965).
	Greenwald et al., "Drug Delivery Systems: Water Soluble Taxol-2'-Poly(ethylene glycol) Ester Prodrugs-Design and in Vivo Effectiveness," J. Med. Chem. 39:424-431 (1996).
	Ghandehari et al., "In Vitro Degradation of pH-sensitive Hydrogels Containing Aromatic Azo Bonds," Biomaterials 18:861-872 (1997).
	Hern et al., "Incorporation of adhesion peptides into non-adhesive hydrogels useful for tissue resurfacing," J. Biomed. Mater. Res. 39:266-276 (1998).
	Hirai et al., "pH-induced Structure Change of Poly (vinyl alcohol) Hydrogel Crosslinked with Poly (acrylic acid)," Angewandte Makromolekulare Chemie 240:213-219 (1996).
	Ishihara et al., "Tris(pentafluorophenyl) boron as an Efficient, Air Stable, and Water Tolerant Lewis Acid Catalyst," Bull. Chem. Soc. Jpn. 68:1721-1730 (1995).
	Kawai et al., "New Application of Solid Acid to Carbon-Carbon Bond Formation Reactions: Clay Montmorillonite-Catalyzed Aldol Reactions of Silyl Enol Ethers with Aldehydes and Acetals," Bull. Chem. Soc. Jpn. 61:1237-1245 (1988).
	Kito et al., "Biocompatible Coatings for Luminal and Outer Surfaces of Small-caliber Artificial Grafts," Journal of Biomedical Materials Research 30:321-330 (1996).
	Lau et al., "Conjugation of Doxorubicin to Monoclonal Anti-carcinoembryonic Antigen Antibody via Novel Thiol-directed Cross-linking Reagents," Bioorganic & Medicinal Chemistry 3:1299-1304 (1995).
	Lau et al., "Novel Doxorubicin-Monoclonal Anti-carcinoembryonic Antigen Antibody Immunoconjugate Activity in vitro," Bioorganic & Medicinal Chemistry 3:1305-1312 (1995).
	Mathur et al., "Methods for Synthesis of Hydrogel Networks: A Review," Journal of Macromolecular Science-Reviews in Macromolecular Chemistry and Physics C36(2):405-430 (1996).
	Moghaddam et al., "Molecular Design of 3-Dimensional Artificial Extracellular-matrix: Photosensitive Polymers Containing Cell Adhesive Peptide," Journal of Polymer Science: Part A: Polymer Chemistry 31:1589-1597 (1993).
	Morpurgo et al., "Preparation and Characterization of Poly(ethylene glycol) Vinyl Sulfone," Bioconjugate Chem. 7:363-368 (1996).
	Pato et al., "Polymers containing enzymatically degradable bonds, 9 th Chymotrypsin catalyzed hydrolysis of a p-nitroanilide drug model, bound via oligopeptides onto poly(vinylpyrrolidone-co-maleic anhydride)," Makromol. Chem. 185:231-237 (1984).
	Pathak et al., "Rapid Photopolymerization of Immunoprotective Gels in Contact with Cells and Tissue," Journal of the American Chem. Society 114:8311-8312 (1992).

EXAMINER	DATE CONSIDERED <u>6-07</u>
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Jan. 3, 2005



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		Serial No.	10/047,404
		Applicant	Hubbell et al.
		Filing Date	October 19, 2001
		Group	1632
(37 C.F.R. § 1.98(b))		IDS Filed	December 8, 2003

	Pelka et al., "Reversible Hydrogels from Self-Assembling Artificial Proteins," Science 281:389-392 (1998).
	Pitt et al., "Controlled Drug Delivery," In Biodegradation of Polymers, Basic Concepts, Volume 1, p. 53-80, CRC Press, Boca Raton, Florida (1983).
	Romanowska et al., "Michael Additions for Syntheses of Neoglycoproteins," Methods in Enzymol. 242:90-101 (1994).
	Sawhney et al., "Bioerodible Hydrogels Based on Photopolymerized Poly(ethylene glycol)-co-poly(α -hydroxy acid) Diacrylate Macromers," Macromolecules 26:581-587 (1993).
	Tanaka et al., "Michael-type Addition of Illudin S, a Toxic Substance from Lampteromyces japonicus, with Cysteine and Cysteine-containing Peptides In Vitro," Chem. Pharm. Bull. 44:273-279 (1996).
	West et al., "Comparison of Covalently and Physically Cross-linked Polyethylene Glycol-based Hydrogels for the Prevention of Postoperative Adhesions in a Rat Model," Biomaterials 16:1153-1156 (1995).
	Wright et al., The Chemistry and Pharmacology of Taxol and Its Derivatives, Farina, ed., p. 110-130 and 165-300, Elsevier, New York (1995).
	Zalipsky et al., "Attachment of Drugs to Polyethylene Glycols," Eur. Polym. J. 19:1177-1183 (1983).
	Zhao et al., "Novel Degradable PEG Esters for Drug Delivery: Synthesis and Characterization," Polymer Reprints 38:526-527 (1997).

EXAMINER	DATE CONSIDERED 6-04
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(37 C.F.R. §1.98(b))

Attorney Docket No.

50154/004002

Serial No.

10/047,404

Applicant

Jeffrey A. Hubbell et al.

Filing Date

October 19, 2001

Group

1632

IDS Filed

August 6, 2002

Customer No.

21559

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
<i>W</i>	GB 1,348,045 A	03/13/74	PCT			
<i>W</i>	WO 00/44808	8/3/00	PCT			
<i>W</i>	WO 01/92584 A1	12/6/01	PCT			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

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Sheet 1 of 1

SUBSTITUTE FORM PTO-1449 (MODIFIED) <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> <div style="text-align: center;"> O I P E MAY 20 2002 PATENT & TRADEMARK OFFICE (37 C.F.R. § 2.101(b)) </div> </div> INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	
Attorney Docket No. 50154/004002 Serial No. 10/047,404 Applicant Jeffrey A. Hubbell et al. Filing Date October 19, 2001 Group 1632 IDS Filed May 15, 2002 Customer No. 21559			

U.S. PATENTS						
Examiner's Initials	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
~	4,618,400	10/21/86	Wood			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)	
~	Aida et al., "Zinc N-substituted Porphyrins as Novel Initiators for the Living and Immortal Polymerizations of Episulfide," <i>Macromolecules</i> , 23:3887-3892 (1990).
~	Blume et al., "Specific Targeting with Poly(ethylene glycol)-modified Liposomes: Coupling of Homing Devices to the Ends of the Polymeric Chains Combines Effective Target Binding with Long Circulation Times," <i>Biochim. Biophys. Acta.</i> , 1149:180-184 (1993).
~	Booth et al., "Effects of Block Architecture and Composition on the Association Properties of Poly(oxyalkylene) Copolymers in Aqueous Solution," <i>Macromol. Chem. Rapid Commun.</i> , 21:501-527 (2000).
~	Discher et al., "Polymersomes: Tough Vesicles Made from Diblock Copolymers," <i>Science</i> , 284:1143-1146 (1999).
~	Gabizon, "Targeting Folate Receptor with Folate Linked to Extremities of Poly(ethylene glycol)-Grafted Liposomes: In Vitro Studies," <i>Bioconjugate Chem.</i> , 10:289-298 (1999).
~	Inoue et al., "Gene Therapy of Human Bladder Cancer with Adenovirus-mediated Antisense Basic Fibroblast Growth Factor," <i>Clinical Cancer Research</i> , 6:4422-4431 (2000).
~	Lasic et al., ed. <i>Stealth Liposomes</i> , Chapters 2, 4, and 9, CRC Press: Boca Raton, FL, (1995).
~	Mortensen, "Block Copolymer in Aqueous Solution: Micelle Formation and Hard-sphere Crystallization," <i>Prog. Colloid. Polym. Sci.</i> , 93:72-75 (1993).
~	Torchilin et al., "Poly(ethylene glycol) on the Liposome Surface: on the Mechanism of Polymer-coated Liposome Longevity," <i>Biochim. Biophys. Acta</i> , 1195:11-20 (1994).
~	Watanabe et al., "First Example of Photoinduced Copolymerizability Enhancement. Copolymerization of Epoxide and Episulfide Initiated with Zinc N-substituted Porphyrin under Visible Light Irradiation," <i>Macromolecules</i> , 24:3970-3972 (1991).
~	Won, "Giant Wormlike Rubber Micelles," <i>Science</i> , 283 960-963, (1999).
~	Yu et al., "Bilayer Morphologies of Self-assembled Crew-cut Aggregates of Amphiphilic PS-b-PEO Diblock Copolymers in Solution," <i>Macromolecules</i> , 31:3509-3518, (1998).
~	Zalipsky et al., "Peptide Attachment to Extremities of Liposomal Surface Grafted PEG Chains: Preparation of the Long-circulating Form of Laminin Pentapeptide, YIGSR," <i>Bioconjugate Chem.</i> , 6:705-708 (1995).
~	Zalipsky, "Long-circulating, Polyethylene Glycol-grafted Immunoliposomes," <i>J. Controlled Release</i> , 39:153-161 (1996).

EXAMINER <i>Clath K. Thuth</i>	DATE CONSIDERED <i>6-04</i>
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